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In Theory, There Is an Optimal Taxation System

Why we should consider taxing robots and how we could curb tax avoidance internationally by introducing an idea that has been under discussion for several decades: An interview with **Florian Scheuer**, professor and expert for tax policy at the Department of Economics. Victoria Watts

Florian Scheuer holds a Professorship of Economics of Institutions, endowed by the UBS Center, at the Department of Economics. He joined the University of Zurich last year and previously served as Assistant Professor at Stanford University, Harvard University and UC Berkeley. His research interests include optimal income taxation of individuals, companies and in particular, top earners in the presence of political and economic constraints.

«The exciting part of my research is looking at taxation on an abstract level, concepts which can apply to any kind of tax system. As an empiricist, you can only compare existing policies, but maybe the best ones have not yet been tried. That is the advantage of taking a more theoretical approach: it means you can design and analyze tax systems that do not yet exist. It is quite likely that we have not yet gotten to the optimal system in practice yet. Therefore, we need to think out of the box instead of just comparing what different countries have done so far. The Destination Based Cash Flow Tax (see interview) is such an example. No country has tried it so far but there are strong theoretical reasons why it is potentially superior to everything we see in practice so far.»

The labor market is going through fundamental changes: automation and digitization are replacing large parts of the workforce. What impact will these changes have on tax revenues?

Over the past twenty years, we have seen a lot of technological progress, and robots are an epitome for these developments. Machines have made some jobs more efficient and less dangerous, and completely replaced others. The jobs most hit by technological change are in the middle of the income distribution.

This polarization of the job market has had a negative effect on tax revenues. Evidence for the US shows that yes, there is more tax revenue from the super-rich because they have gotten richer, but the increase has not compensated the tax revenue losses from the middle class that has not done so well.

Income is not evenly distributed; it is extremely skewed, which means that there are very few high earners for each middle-class earner. If the middle class disappears, a lot of tax revenue goes along with it.

If robots are the reason for this increase in inequality – can we make them pay?

In principle, I believe that is an idea worth considering, however only as a transitional policy. Our tax systems are very dependent on labor income, and technology is changing our labor market at great speed. With automation, the occupational and wage structures in many sectors are changing and the market needs time to adjust to these new

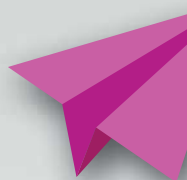
requirements and opportunities: People need to re-educate themselves, acquire new skills, and take on different jobs and occupations. Such changes take time and a robot tax might be a useful transitional tool to carry us through this period of adjustment. Obviously, this is not a long-term solution, as it would stifle technological development and put countries that impose it at a global disadvantage.

What would such a robot tax look like?

Firstly, you have to consider that these robots are going to be mobile, so if one country implements a robot tax, it would probably hurt that country as firms would simply move their robots to other countries. One way to go about this is to think of robots as a type of capital. This particular type of capital has strong effects on the wage distribution and the distribution of labor income and thus tax revenues.

There are various approaches to capital taxation and the effect of capital tax on investments and capital accumulation depends on the rules that are imposed. Full expensing, as implemented in the recent US Tax Bill means that if you buy a new machine you can deduct the entire cost of that investment from your profits and you are not going to pay taxes on that investment. However, this is not how most tax systems deal with investment. The more common approach is to use depreciation rules. This means that if you put in a new machine you cannot fully expense the entire investment immediately; you have to depreciate it over a set amount of time. So, the year of the investment you will be paying more taxes than if you could





fully expense it. We know that if we allow for full expensing, capital taxes do not reduce investment. However, a capital tax system that requires you to depreciate your investment over a longer horizon can have a negative effect on investment, depending on the depreciation rules.

So, one way to impose a robot tax in that system would be to say: We limit the degree of expensing that you can do for particular types of robots, e.g. the kind that replace human labor. Such limiting of expensing would be an indirect tax on that type of investment.

Is there a country that already has implemented a robot tax?

Yes, South Korea has recently implemented such an approach. In addition to the already existing depreciation rate for capital investments, they have now implemented depreciation rates for investments into warehouse robots. This rate is 2% lower than for other capital investments, so it is a way to tax robots. It is a non-aggressive approach and is not going to have a huge effect. Nevertheless, it is noteworthy that the policy debate in South Korea was all about generating additional revenue from firms that employ robots while reducing their human workforce and thus tax revenue for the government. Reducing the depreciation rates for robots is one way to do that, without completely discouraging the investment into robots, which of course, you do not want to do either.

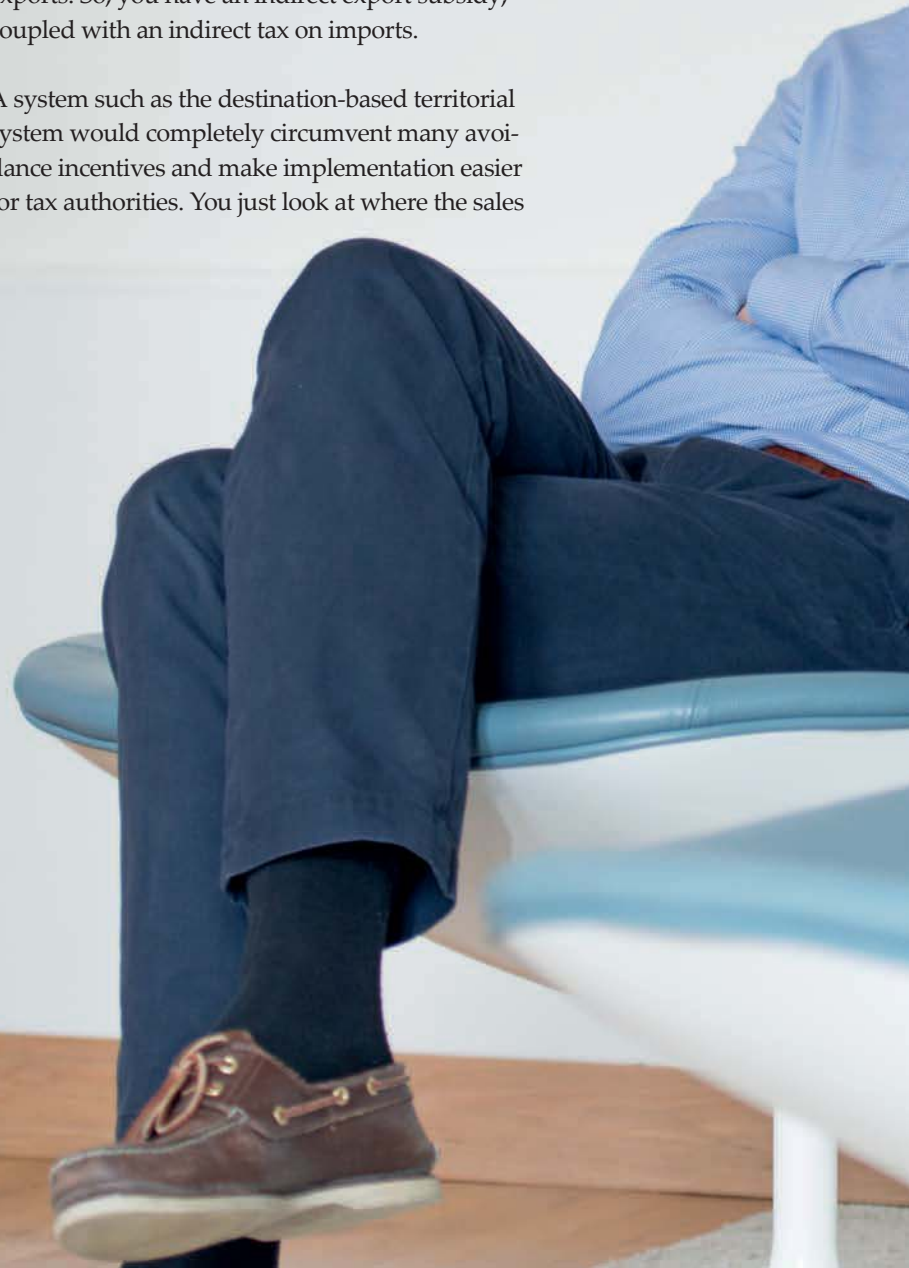
A simple way for multinational companies to reduce their tax load is to move their headquarters into low tax jurisdictions, with states forgoing the tax revenue. Could a global taxation system be the solution?

A global approach is not realistic, there is always going to be tax competition across countries to attract firms. There is an interesting concept though, which gained a lot of steam in the recent tax reform discussion in the US, the Destination Based Cash Flow Tax (DBCFT). The concept was mainly developed by Alan Auerbach, a public finance economist at Berkeley. Put simply: Pay taxes where you do business. Today, we tax corporate profits based on where the headquarters are located. The DBCFT is a very different system, based on cash-flow taxation. It includes full expensing, so you can immediately deduct all your investment expenditures, which is good for growth and investment.

Also, the DBCFT would treat debt and equity symmetrically. A criticism of the corporate tax system as it is, is that you can deduct your interest costs from your profits, but you cannot deduct your equity costs. This puts an advantage on debt financing which is considered a drawback because we think that firms have too much debt, which may lead to instability and financial crises. So, the DBCFT would also balance the incentive to raise equity versus debt financing.

The ingenious thing about the DBCFT is that it would eliminate the incentives for firms to relocate to other countries because their taxes do not depend on where their headquarters are, but on where they sell their products. Under this system, firms could deduct all expenses for goods and inputs they buy on the domestic market, but not for goods or inputs they purchased abroad. Similarly, they only pay taxes on domestic sales, and not on exports. So, you have an indirect export subsidy, coupled with an indirect tax on imports.

A system such as the destination-based territorial system would completely circumvent many avoidance incentives and make implementation easier for tax authorities. You just look at where the sales



occurred, which is very easy to figure out. How much did you sell in the domestic market, how much did you buy in it? Then you pay taxes on the difference between your costs and your sales. Because it is so transparent, the possibility to manipulate your tax liabilities would be curbed.

The DBCFT sounds like the solution to many problems, why has it not established itself?

A good question. It would fundamentally change the way we think about corporate taxation. We'd move from profits to cash flow and make it territorial. However, it is easier to implement small, incremental reforms, than such a paradigm change. In their recent tax bill, the US has implemented parts of it, i.e. by introducing full expensing.

Also, it is still not quite clear how the WTO would treat such implicit import tariffs and export subsidies as generated by the DBCF-Tax, as they might conflict with WTO Trade rules. The lawyers are still split on this, but it seems that DBCF-Tax would be legal if framed carefully.

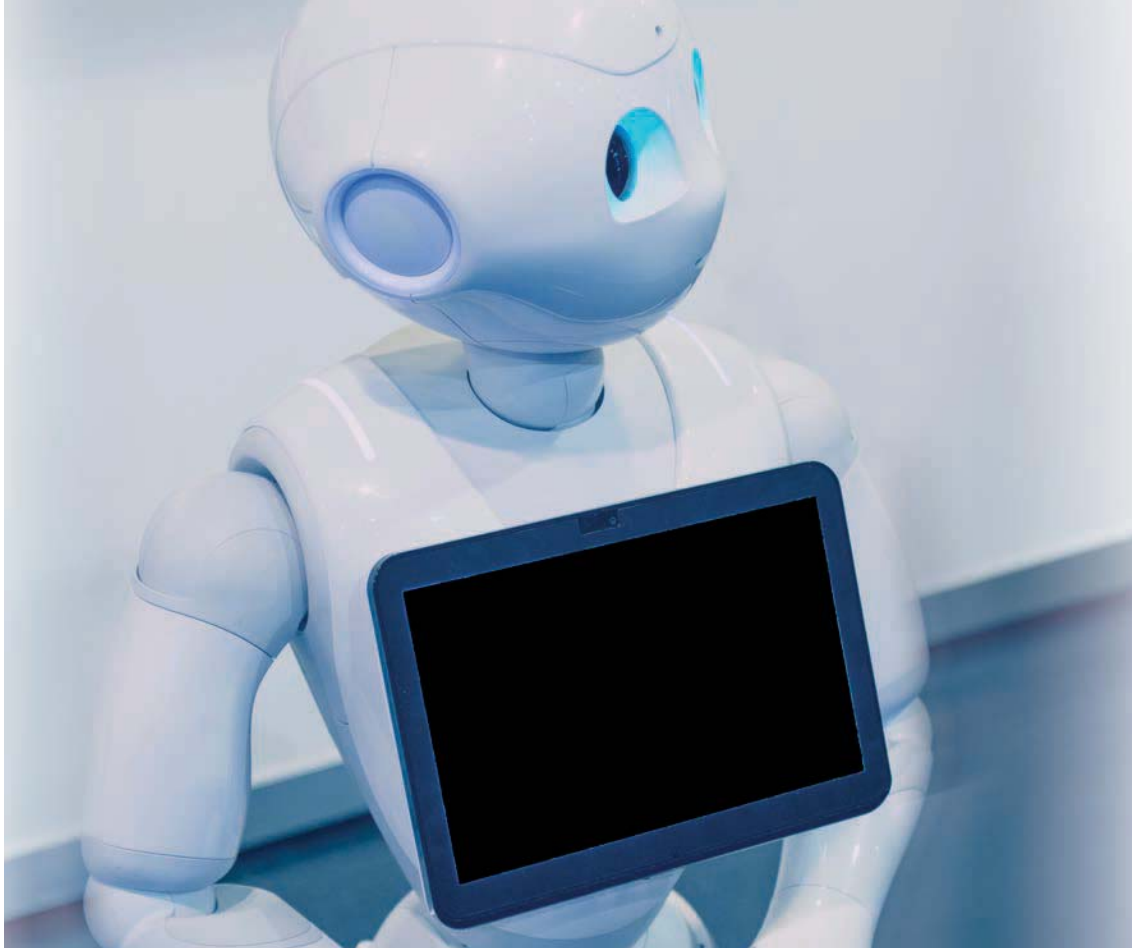
And on an individual level: How should we tax incomes at the very top?

We have seen a drastic increase in inequality over the last twenty to thirty years, especially in the top 1%. After the financial crisis, people started to ask if these incomes are contributing to the benefit of society or if they come at an expense to the rest of us. Questions are being asked if the incomes correspond to the underlying productivity of the people receiving them. This was the starting point to my work on rent-seeking.

Take, for example, CEO incomes, which have exploded over the last decades. Is this because these CEOs are true superstars and have been able to leverage their skills on a bigger scale due to globalization and larger company sizes, with their decisions having bigger effects? Or are they simple rent-seekers who have stacked the corporate boards with friends and cronies, willing to sign off on pay and bonuses, irrespective of their performance?

Depending on your view of such top incomes, you will want to tax them differently. If these CEOs are superstars, taxing them at a very high rate would be detrimental to tax revenue and the economy as a whole. Due to the huge leverage effect their actions have, minor distortions of their efforts will have very large consequences. Any decision, especially a bad one, will hurt the bottom 99%. If you are more critical of these top incomes and think that their pay does not reflect the underlying productivity, it might be a good idea to correct these overpayments through higher tax rates.

There are simulations for the US where, assuming CEOs to be overpaid rent-seekers, the revenue maximizing top marginal tax rate would be between 60–70%, much higher than what we have in most countries. However, under the superstar assumption, the revenue maximizing top marginal tax rate would be 30–40%, which is about what we have in Switzerland.



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Prof. Florian Scheuer

What are the effects of an extremely decentralized tax system like the one we have in Switzerland?

Switzerland is an extremely interesting country regarding its tax system. Foreigners are surprised to hear that people living a few kilometers apart can be subject to significantly different tax rates. People are very mobile across these relatively short geographical distances, especially rich people, which leads to strong tax competition and puts pressure on the overall level of taxes. On an aggregate level, this means that even if each municipality or canton has a progressive tax schedule, due to this relocating effect, the average tax rate across Switzerland is not going to be very progressive. There are studies that show that the average marginal tax rate is declining at the very top. We see that, for incomes above CHF 300 000, the marginal tax rate decreases, leaving the very rich with lower marginal taxes than the not quite so rich. So, this extremely decentralized system undoes the idea of progressive taxation at the very top.

Is there a near-perfect tax system?

There will always be disagreement about tax policy because taxation systems are fundamentally shaped by social preferences regarding redistribution. How well do we want to insure people against rising inequality and which income groups should carry the costs of redistribution? As a scientist,

I try to keep my political preferences out of my research. You can't have an objective scientific discussion about the right degree of redistribution. Some people favor distribution, others are more tolerant of inequality. I could not say that Sweden is better than the US because they redistribute more. It's just that they decided that for them that would be their preferred system.

Of course, taking a society's redistributive preferences as given, we are able to design optimal tax systems, which achieve the distributive goals most efficiently, and this is what much of my research is about.

Could there be an objective measure in enforcement?

On the efficiency side you can say that, for a given tax law, one can measure how well a country is actually enforcing it. We see huge differences across countries. More advanced countries tend to be better enforcers. Tax enforcement is still the first-order issue in developing countries. Many of them do not have the means to enforce an income tax, as that is a very complicated task to administer, so they rely on indirect taxes, on tariffs and sales taxes because these are much easier to manage. But, obviously, they are not as effective in achieving targeted redistribution between the rich and the poor.